

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-20 are pending, of which claims 1, 4, 6-9, 12, 14-15, 17-18, and 20 have been amended. Support for the amendments can be 5 found at least at page 2, lines 22-33; page 5, lines 22-39; page 6, lines 1-6; and at Figs. 1-5.

Applicant's amendments and remarks after Final are appropriate under 37 C.F.R. §1.116 because they address the Office's remarks in the Final Action, and thus could not have been presented earlier. In addition, the 10 amendments and remarks should be entered to place the case in better form for appeal.

35 U.S.C. §102 Claim Rejections

Claims 17 and 18 are rejected under 35 U.S.C. §102(e) as being 15 anticipated by U.S. Patent No. 6,297,873 to Furuya (hereinafter, "Furuya") (*Office Action* p. 5). Applicant respectfully traverses the rejection.

Claim 17 recites a printing device comprising "a colorant placing engine configured to place colorant on print media for printing and during on-media 20 calibration, the colorant placing engine further configured to place the colorant on other than print media during off-media calibration".

Furuya does not show or disclose a colorant placing engine configured to place colorant on print media during on-media calibration and further configured to place the colorant on other than print media during off-media 25 calibration, as recited in claim 17. The Office recognizes that Furuya does not disclose off-media calibration performed by placing colorant on other than print media (*Office Action* p.7).

Accordingly, claim 17 along with dependent claim 18 is allowable over Furuya for at least this reason, and Applicant respectfully requests that the §102 rejection be withdrawn.

5 35 U.S.C. §103 Claim Rejections

A. Claims 1-2, 4, 6, 9-10, 12-13, 16, and 20 are rejected under 35 U.S.C. §103(a) for obviousness over Furuya in view of the Background of the subject application (hereinafter, "Background") (*Office Action* p. 6). Applicant respectfully traverses the rejection.

10 B. Claims 3 and 11 are rejected under 35 U.S.C. §103(a) for obviousness over Furuya in view of the Background, and further in view of U.S. Patent No. 6,435,654 to Wang et al. (hereinafter, "Wang") (*Office Action* pp. 13 and 17). Applicant respectfully traverses the rejection.

15 C. Claims 7-8 and 14-15 are rejected under 35 U.S.C. §103(a) for obviousness over Furuya in view of the Background, and further in view of U.S. Patent No. 5,649,073 to Knox et al. (hereinafter, "Knox") (*Office Action* pp. 15 and 17). Applicant respectfully traverses the rejection.

20 D. Claims 5 and 19 are rejected under 35 U.S.C. §103(a) for obviousness over Furuya in view of Background, and further in view of Knox, and further in view of U.S. Patent No. 6,804,025 to Ueda et al. (hereinafter, "Ueda") (*Office Action* pp. 14 and 19). Applicant respectfully traverses the rejection.

Claim 1 recites a method for calibrating a printing device comprising:

5 (b) performing an off-media calibration to obtain off-media calibration measured values of the colorant, the off-media calibration being performed by placing the colorant on other than print media;

10 (c) making a correlation between the on-media calibration measured values of the colorant placed on the print media and the off-media calibration measured values of the colorant placed on other than the print media; and,

15 (d) performing subsequent off-media calibrations by placing the colorant on other than the print media to obtain additional off-media calibration measured values which are used along with the correlation between the on-media calibration measured values and the off-media calibration measured values to calibrate the printing device.

20 Furuya and/or the Background do not teach or suggest the combination of features recited in claim 1. Specifically, the Furuya-Background combination does not teach subsequent off-media calibrations by placing the colorant on other than the print media to obtain additional off-media calibration measured values which are used with the correlation... to calibrate the printing device, as recited in claim 1.

25 Furuya describes an estimated calibration that is determined by "computing a correction value for calibration from the previous calibration history, environmental information, and photographic printing paper characteristic[s]" (*Furuya* col.9, lines 51-56). The "previous calibration history" in Furuya includes density measurements of printed calibration test 30 patterns printed on paper, environmental information, the printing paper type, and the amount of exposure after calibration (*Furuya* col.10, lines 1-8). As such, the actual and estimated calibrations described in Furuya are always based, at least in part, on actual density measurements of a printed calibration test pattern printed on paper. There is no indication in Furuya of off-media

calibration by placing colorant on other than print media, as recited in claim 1, nor is there any reason to conclude that Furuya would utilize off-media calibrations.

The Office recognizes that Furuya does not disclose off-media calibration performed by placing colorant on other than print media, as recited in claim 1. The Office cites the Background for off-media calibration that includes placing colorant on a transportation belt of the printing device and measuring the colorant to obtain off-media calibration measured values (*Office Action* p.8). Applicant disagrees with the proposed combination because there is no reason to combine off-media calibration as described in the Background with Furuya.

Furuya describes "eliminating waste of photosensitive materials" (or "saving consumable media during calibration" as the Office states at p.8 of the *Office Action*) by not printing a calibration test pattern to measure a print density (*Furuya* col.1, lines 43-45). Contrary to not printing a calibration test pattern as described in Furuya, Applicant describes a different inventive technique to preserve print media – that is off-media calibration by placing colorant on other than print media, as recited in claim 1. Respectfully, the Office is improperly combining Furuya with the Background based on Applicant's disclosure and claimed subject matter.

Furuya and/or the Background also do not teach or suggest "making a correlation between the on-media calibration measured values of the colorant placed on the print media and the off-media calibration measured values of the colorant placed on other than the print media", as recited in claim 1. As described above, Furuya does not describe off-media calibration. As such, there is no correlation in Furuya between on-media calibration measured values

and off-media calibration measured values, as recited in claim 1. Further, there is no indication in the Background of a correlation, nor has the Office cited the Background for any such correlation.

The Office contends that “ΔEa” in Furuya is a correlation between 5 on-media calibration measured values and off-media calibration measured values, as recited in claim 1 (*Office Action* p.3). Furuya describes that “ΔEa” is the total amount of change in the exposure amount between two calibrations (*Furuya* col.13, lines 59-61; col.14, lines 3-5). As described above, the calibrations described in Furuya are always based, at least in part, on actual 10 density measurements of a printed calibration test pattern printed on paper. Again, there is no indication in Furuya of off-media calibration by placing colorant on other than print media, as recited in claim 1. Accordingly, Furuya does not teach a correlation between on-media calibration measured values and off-media calibration measured values, as recited in claim 1.

15 The Office further contends that the environmental conditions (which are included in computing a correction value for calibration in Furuya) are “measured” and are therefore a basis to reject the off-media calibration measured values recited in claim 1 (*Office Action* p.3). Claim 1 is amended to clarify that the off-media calibration measured values are “of the colorant”. 20 Accordingly, Furuya does not teach any such “off-media calibration measured values of the colorant”, as recited in claim 1.

Accordingly, claim 1 is allowable over the proposed Furuya-Background combination for at least the several reasons described above, and Applicant respectfully requests that the §103 rejection be withdrawn.

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Claims 2, 4, and 6 are allowable over the Furuya-Background combination by virtue of their dependency upon allowable claim 1.

Claim 3 is allowable over the Furuya-Background combination by virtue of its dependency upon allowable claim 1. Claim 3 is also allowable over the Furuya-Background-Wang combination because Wang does not address the deficiencies of Furuya as described above in the response to the rejection of 5 claim 1.

Claim 5 is allowable over the Furuya-Background combination by virtue of its dependency upon allowable claim 1. Claim 5 is also allowable over the Furuya-Background-Knox-Ueda combination because Knox and/or Ueda do not address the deficiencies of Furuya as described above in the response to the 10 rejection of claim 1.

Claims 7 and 8 are allowable over the Furuya-Background combination by virtue of their dependency upon allowable claim 1 (either directly or indirectly). Claims 7 and 8 are also allowable over the Furuya-Background-Knox combination because Knox does not address the deficiencies of Furuya 15 as described above in the response to the rejection of claim 1.

Claim 9 recites a self-calibrating printing device:

20 wherein the self-calibrating printing device makes a correlation between the on-media calibration measured values of the colorant applied to the print media and the off-media calibration measured values of the colorant applied to the printer transport belt; and,

25 wherein, during subsequent off-media calibrations, the self-calibrating printing device uses additional off-media calibration measured values of colorant applied to the printer transport belt along with the correlation between the on-media calibration measured values and the off-media calibration measured values to 30 calibrate the printing device.

As described above in response to the rejection of claim 1, Furuya and/or the Background do not teach or suggest a self-calibrating printing device

that comprises the combination of features recited in claim 9. For at least the several reasons described above in response to the rejection of claim 1, claim 9 is allowable over the proposed Furuya-Background combination and Applicant respectfully requests that the §103 rejection be withdrawn.

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Claims 10, 12-13, and 16 are allowable over the Furuya-Background combination by virtue of their dependency upon allowable claim 9.

10 Claim 11 is allowable over the Furuya-Background combination by virtue of its dependency upon allowable claim 9. Claim 11 is also allowable over the Furuya-Background-Wang combination because Wang does not address the deficiencies of Furuya as described above in the response to the rejection of claims 1 and 9.

15 Claims 14 and 15 are allowable over the Furuya-Background combination by virtue of their dependency upon allowable claim 9 (either directly or indirectly). Claims 14 and 15 are also allowable over the Furuya-Background-Knox combination because Knox does not address the deficiencies of Furuya as described above in the response to the rejection of claims 1 and 9.

20 Claim 19 is allowable over Furuya-Background combination by virtue of its dependency upon allowable claim 17 as described above in the response to the §102 rejection of claim 17. Claim 19 is also allowable over the Furuya-Background-Knox-Ueda combination because Knox and/or Ueda do not address the deficiencies of Furuya as described above in the response to the rejection of claim 1.

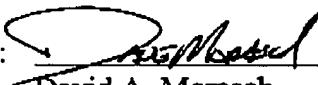
25 Claim 20 is allowable over the Furuya-Background combination by virtue of its dependency upon allowable claim 17 as described above in the response to the §102 rejection of claim 17.

Conclusion

Pending claims 1-20 are in condition for allowance. Applicant respectfully requests reconsideration and issuance of the subject application. If 5 any issues remain that preclude issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

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Docket No. 10002280-1